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Economic Analysis Engagement
A Comparative Analysis of Costs of Providing Email

Analysis Date: June 2010

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Executive Summary

The State of Washington's (SoWA) Department of Information Services (DIS), on instruction from the State of Washington Information Services Board (ISB), asked Unisys and partner, Excipio, to analyze the economics regarding the state's current email infrastructure compared against two economic alternatives. The language from the ISB Motion Regarding State Provisioning of Email Services has the following objective and bulleted focus areas:

"With respect to email services, the Vendor shall use existing benchmark data, information and reports to: (1) create a baseline by developing an estimate of the total annual cost of providing the services; and (2) develop a comparison of the cost of the current approach to the cost of a variety of alternatives, including (a) centralizing most or all services in DIS and (b) contracting with a private (non-state) entity to provide most or all services.

- Estimate the current total annual cost of providing email services that includes the number and cost of FTEs, the cost of licensing, and the cost of the portion of servers dedicated to email...
- Develop an "apples to apples" cost methodology to compare the costs of the current approach with centralizing email services in DIS and contracting with a private entity to provide e-mail services."

Market Analysis

There are currently two common types of electronic mail providers, consumer and corporate based solutions. The consumer based solutions focus on the typical home user, and may or may not integrate into common office suite products such as Microsoft Office. The leaders in the consumer based solutions estimated market share include: Yahoo (56%), Microsoft Live (19%), and multiple other solutions such as Google (10%).

Limitations with consumer based solutions at the State of Washington include:

- These solutions would not utilize the current investments in the New State Data Center
- There are integration challenges with calendaring, contact functionality and unified communication
- The State has a significant investment in current applications which would not be utilized

The corporate-based solutions are typically referred to as enterprise solutions. These solutions focus on commercial, corporate, and public organizations. Most are based on larger organizational requirements with the technical resources to implement, integrate, and support the service. In addition, most of these solutions focus on integration with productivity solutions, such as Microsoft Office. Additional sharing and collaboration features, such as calendar sharing, contact information, and unified communication functionality, is found within the products. The leaders in the enterprise market and their estimated market share include: Microsoft Exchange (62%), IBM (26%) and Novell (8%).

The following chart provides a summary of average costs per mailbox use for each of the enterprise solutions. In addition, Google was added to the chart below by request of the State of Washington.

Electronic Mail Service	Monthly Cost per User
Microsoft Exchange	\$ 4.04
IBM Lotus Notes/Domino	\$ 6.25
Novell GroupWise	\$ 12.75
Google GAPE	\$ 13.58

The information has been provided by Gartner, Excipio, and hitwise. Clients had a minimum of 30,000 user mailboxes and range to more than 100,000 users. All costs assume a centralized solution, and are based upon an average over five years. Financials and percentages are based upon averages from 2007 through 2009. NOTE: Google has limited implementations based upon these parameters.

Assessment Approach

Scenarios Studied

In order to properly assess the state's options, Excipio evaluated the following scenarios:

- Current State Baseline – This scenario captures the current cost for operating the existing Exchange environment across 51 agencies, commissions, and boards representing over 85% of the enterprise.
- DIS Centralization – DIS would implement a redesign of the current infrastructure to consolidate email into a highly-redundant design that includes disaster recovery capabilities.
- Outsource Solution (private entity) – In evaluating potential outsource vendors, Microsoft's Business Productivity Online Standard Suite (BPOS) was selected to serve in this capacity. This is a Cloud solution, where all Microsoft technologies included in this analysis would be hosted at a Microsoft facility. Under this scenario, all hardware, software, and a portion of the support services would become the responsibility of Microsoft in a utility model. Hardware that would remain with SoWA would include only related directory services and agency business-line applications.

Process

To complete the process, Excipio employed its analysis methodology. A summary of the key methodology milestone events are listed below:

- Data Collection and Interviews - Excipio provided SoWA Agencies and Microsoft with data collection templates to complete. Upon completion, a series of interviews were conducted to validate the data provided and understand the entity's email operation.

- Compilation of Information and Analysis - The information collected was categorized and analyzed for material impact to the bottom line, overall risk, and probability of occurrence. Excipio also used relevant data points from other Excipio clients, industry analysts, and research articles to validate participant information.
- Data Validation of Results – Upon completion of the Analysis Phase, each participant was asked to validate the use of the data in the analysis for two primary reasons:
 - Ensure the data provided was not misinterpreted or misunderstood in the analysis
 - Verify any assumptions made and used by the project team

Financial Results

DIS Centralization Scenario

Figure ES-1 represents the comparison between DIS Centralization Solution and the Current State Baseline over a five-year period. The Operating Expenses and Capital Expenditures itemized in both accounting perspectives, represent the DIS Centralization Solution projections. To complete the comparison, the Revenue / Benefits line represent the Current State Baseline.

ES – 1: DIS Centralization Scenario Comparison

State of Washington DIS Centralization								Cash Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(15,991,543)	(3,198,309)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Capital Expenditures	(2,911,706)						(2,911,706)	(582,341)
Pre-Tax Cash Flow	(2,911,706)	1,147,307	1,147,307	1,147,307	1,147,307	1,147,307	2,824,827	564,965
Tax Impact								
Net Cash Flow	(2,911,706)	1,147,307	1,147,307	1,147,307	1,147,307	1,147,307	2,824,827	564,965

State of Washington DIS Centralization								Net Income Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(15,991,543)	(3,198,309)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Depreciation Expense	(571,848)	(571,848)	(571,848)	(571,848)	(571,848)	(624,312)	(2,911,706)	(582,341)
Earnings Before Taxes		575,458	575,458	575,458	575,458	522,994	2,824,827	564,965
Tax Impact								
Net Income		575,458	575,458	575,458	575,458	522,994	2,824,827	564,965

Observations

- The DIS Centralization Solution includes startup costs of \$2.91M with an annual operating cost of \$3.2M per year.
- When compared to the Current State Baseline operation cost of \$4.35M, on a cash basis, the result is an annual operating cost savings of \$1.15M after the startup costs are absorbed.
- This is the most cost-effective scenario for the SoWA.

Outsource Solution Scenario

Figure ES-2 represents the comparison between Outsource Solution and the Current State Baseline over a five-year period. The Operating Expenses and Capital Expenditures itemized in both accounting perspectives, represent the Outsource Solution projections. To complete the comparison, the Revenue / Benefits line represent the Current State Baseline.

ES – 2: Outsource Solution (BPOS) Scenario Comparison

State of Washington Microsoft BPOS								Cash Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(22,718,860)	(4,543,772)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Capital Expenditures	(915,716)						(915,716)	(183,143)
Pre-Tax Cash Flow	(915,716)	(198,157)	(198,157)	(198,157)	(198,157)	(198,157)	(1,906,500)	(381,300)
Tax Impact								
Net Cash Flow	(915,716)	(198,157)	(198,157)	(198,157)	(198,157)	(198,157)	(1,906,500)	(381,300)

State of Washington Microsoft BPOS								Net Income Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(22,718,860)	(4,543,772)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Depreciation Expense		(183,143)	(183,143)	(183,143)	(183,143)	(183,143)	(915,716)	(183,143)
Earnings Before Taxes		(381,300)	(381,300)	(381,300)	(381,300)	(381,300)	(1,906,500)	(381,300)
Tax Impact								
Net Income		(381,300)	(381,300)	(381,300)	(381,300)	(381,300)	(1,906,500)	(381,300)

Observations

- The outsource solution of Microsoft BPOS Exchange includes startup costs of \$916K with an annual cost of \$4.54M per year.
- When compared to the Current State Baseline annual operating cost of \$4.35M, on a cash basis, the result is an annual operating cost increase of \$198K after the startup costs are absorbed.

Solution Scenario Summary

The following chart is a summary view of the financial comparison results associated with the current project variables.

Figure ES – 2: Scenario Comparison Summary

Metric	Current Exchange Platform	Future DIS Centralized Exchange 2010	Future Microsoft Exchange 2010 (BPOS)
Number of Users	66,247	66,247	66,247
Current Number of eMail Server Locations	32	2	N/A
Thick Clients in use	66,247	66,247	66,247
Web Clients in use	0	0	0
Upfront Conversion Costs	N/A	\$2.91M	\$916K
Total Five Year costs	\$21.73M	\$15.99M	\$22.72M
Annualized Operating Costs	\$4.35M	\$3.20M	\$4.54M
Total Five Year Cost per User	\$328	\$241	\$343
Annual Operating Cost per User	\$66	\$48	\$69

All values are based on non-discounted dollars averaged over a five-year timeframe.

Observations

- **Number of Users** – This count represents the number of named-mailboxes associated with the analysis. This metric does not represent total mailboxes at the SoWA (78,892) as it does not include resource mailboxes in the count. Resource mailboxes consist of shared mailboxes, distribution lists, and conference rooms.
- **Number of Email Server Locations** – This represents the number of locations associated with each scenario. The SoWA current state solution infrastructure is located at 32 sites and the DIS Centralized Solution is contained at two. Microsoft was unable to provide details related to the number of physical sites associated with the solution in the Cloud.
- **Thick and Web Email Clients** – For the purposes of this analysis, Microsoft Outlook is the thick client and Microsoft Outlook Web Access (OWA) is the web version. As with many organizations, most to all users primarily use a thick client as OWA is an option for a mobile workforce.
- **Scenario Costs** – The Upfront Conversion Costs, Total Five-Year Costs, and Annualized Operating Costs are the final summary results from the estimated financials for each scenario side-by-side.
- **Cost per User** – There are a couple of financial ratios used in the industry to benchmark email costs for annual financial performance. The primary ratios are Cost per User/Seat and Cost per Mailbox. As explained earlier, a difference exists between these factors. The Cost per User/Seat for the current state is \$65.60 (\$4,345,615 annual operating costs / 66,247 users), but the Cost per Mailbox is \$55.08 (\$4,345,615 annual operating costs / 78,892 mailboxes).

Other Issues for Consideration

Excipio has provided other areas of consideration for the SoWA as it relates to a potential future decision:

General

- Resource focus – A current trend across Excipio clients is to outsource commoditized applications (email, fax, service desk, desktop support, etc.) in order to allow IT resources to focus on strategic initiatives that drive new business opportunities or operational efficiencies.
- Disaster Recovery - The current state design does not provide disaster recovery capabilities for most agencies. The designs provide for redundancy within each site, but no failover capabilities. Both the DIS Centralized Exchange 2010 and the BPOS solutions provide a full disaster recovery (DR) capability.
- Blackberry servers will have to be located wherever the Microsoft Exchange servers reside due to their reliance on Messaging Application Programming Interface (MAPI) communications. For the Microsoft BPOS solution only, Blackberry application provisioning “over the air” will not be possible, as all devices will need to be tethered to a local desktop or laptop for setup provisioning.
- Specific Email Requirements – Every organization has specific security, privacy, and data handling requirements and policies related to email. In relation to outsourcing, email and data management is handled in the same secure way it is today except traveling over the Wide Area Network instead of the Local Area Network and the organization will no longer own the equipment for the email system (facilities, servers, network, storage, and backup equipment). The same guidelines and policies will apply to the outsourced contract. The organization will still be responsible for the following:
 - Establishing and maintaining all security strategy/policy and communicating this to the service provider
 - Service Level Agreement and contract reviews
 - Performance and process related audits

Microsoft BPOS Specific

- As BPOS is primarily hardware and services related strategy in a highly commoditized market segment, most organizations would only expect to see a 10-15% return. The Microsoft BPOS proposed solution currently provides an estimated loss with a negative return on investment (-208%).
- Future Upgrades – In the BPOS environment, the client no longer has to upgrade the email environment or the supporting infrastructure. Microsoft is responsible for all server operating system (OS) patching, version upgrades, and platform support. Most organizations upgrade their platforms every four to five years. No future upgrade costs were included in the economics above.

- Placing this entire infrastructure in the Cloud introduces one new risk, that of consistent and reliable connectivity. Should the internet experience throughput issues, agencies could experience outages or reduced performance that is not within SoWA or Microsoft control.

Scope and Assumptions

Objectives

The objectives of the analysis are as follows:

- To benchmark the state's internal costs associated with operating the current on-premise Microsoft Exchange platform
- To work with DIS' subject matter experts to derive the process and project the costs of performing an on-premise upgrade and consolidation to the most recent Microsoft Exchange release (Exchange 2010)
- To use the information and, working with Microsoft, derive a conceptual future-state design based on Microsoft's Business Productivity Online Standard Suite (BPOS)
- To derive future-state financial cases, based on the on-premise and off-premise designs, and to determine their financial feasibility. This case will include:
 - All estimated transition costs (servers, software, storage, connectivity, etc.)
 - All estimated immediate client cost savings
 - Identification of all expected efficiency improvements or cost avoidance opportunities

In Scope

The scope of the analysis included 51 total agencies. The following list represents the agencies in the study.

Figure SA-1: Scoped Agencies

SoWA In-scope Agencies
Dept. of Corrections
Dept. of Employment Security
Dept. of Health
Dept. of Licensing
Dept. of Social and Health Services
Dept. of Transportation
Washington State Patrol
Dept. of Ecology
Liquor Control Board
Office of Financial Management
Attorney General
Dept. of Financial Institutions
Health Care Authority
Office of Superintendent of Public Instruction
Dept. of Retirement Systems
Dept. of Revenue

Figure SA-1: Scoped Agencies (Continued)

SoWA In-scope Agencies
Dept. of Information Services Hosted eMail Service
Dept. of Information Services
Dept. of Labor & Industries
Dept. of Personnel
Dept. of Fish and Wildlife
Dept. of Natural Resources
Agriculture
Board of Accountancy
Board of Volunteer Fire Fighters
Caseload Forecast Council
Central Puget Sound Growth Mgmt. Hearing Board
Commission on African American Affairs
Commission on Asian Pacific American Affairs
Commission on Hispanic Affairs
Commission on Salaries
Department of Veteran's Affairs
Dept of Early Learning
Dept of Printing
Dept. of Archeology and Historic Preservation
Dept. of Services for the Blind
EW Growth Mgmt Hearing Board
Governor's office on Indian Affairs
Home Care Quality Authority
Human Rights Commission
Law Enforcement Officer and Firefighter Retirement Plan
Office of Administrative Hearings
Office of Civil Legal Aid
Office of Minority and Women's Business Enterprises
Recreation and Conservation Office
Transportation Improvement Board
Utilities and Transportation Commission
WA Council for Prevention of Child Abuse & Neglect
Washington Fire Commissioner's Assn
Washington State School Board Directors Association
Washington Traffic Safety Commission
West WA Growth Mgmt Hearing Board

The following were specific technologies defined as within the scope of the assessment.

General

- All servers and operating systems related to technologies specifically listed below, in the second bullet.

- All Infrastructure considerations related to the technologies in scope that would require significant modification – data storage, backup, wide-area network/local area network (WAN/LAN), and disaster recovery

Electronic Mail and Collaboration Technology

- All Exchange servers and operating systems
- Network services specifically related to email – SPAM filters and Anti-Virus.
- All internal and external support staffing

Non-Email Applications

- Blackberry Enterprise Server (BES) – Blackberry mobile device communication including phone, mail, web applications
- IronPort – provides all anti-virus and anti-spam capabilities for email

Out of Scope

General

- Any server monitoring tools used for monitoring and patching Microsoft servers (Microsoft Operations Manager, System Center Configuration Manager, etc.)
- Any web-collaboration applications or capabilities
- Any and all data center facilities infrastructure
- Development of operational budgets outside of the technical focus areas
- Creation of technical migration plans and implementation strategies
- Design of marketing plans and target client strategies
- Technical support and fit of current technologies
- Troubleshooting of applications and infrastructure issues.
- Business line applications (SharePoint, Faxination, etc.)

Options Reviewed

The following were the options studied within the scope of this assessment.

Option 1 – Current State Baseline

Excipio worked with agency subject matter experts (SMEs) to establish the costs of operating the current environment in an “as-is” configuration, assuming no platform migrations take place. This scenario will be used as comparison for the two future state options below.

Option 2 – DIS Upgrade and Consolidation

This option assumes the state will upgrade the environment to Exchange 2010 and DIS will host the infrastructure for all agencies. The analysis includes the capital project costs of executing the migration, as well as the ongoing operations costs. The analysis will also identify non-financial impacts such as risks, efficiency improvements, etc. This scenario specifically assumes:

- Centralization of all mail related hardware and staff in the DIS facilities
- All supporting technologies (Blackberry, IronPort, Enterprise Vault, etc.) will consolidate to the DIS facilities.
- All business line applications will reside with the agencies (fax, document management, etc.)

Option 3 – Outsourced Email Solution

In evaluating potential outsource vendors, Microsoft's Business Productivity Online Standard Suite (BPOS) was selected to serve in this capacity. This is a Cloud solution, where all Microsoft technologies included in this analysis would be hosted at a Microsoft facility. Under this scenario, all hardware, software, and a portion of the support services would become the responsibility of Microsoft in a utility model. Hardware that would remain with SoWA would include only related directory services and agency business-line applications.

Process

To gather all of the information for this analysis, the following data sources were used:

- SoWA agency's internal Subject Matter Experts (SMEs) in charge of the appropriate technical infrastructure components were used to provide:
 - The current Exchange infrastructure configurations and costs
 - Labor estimates to execute an on-premise upgrade of Exchange
 - State-specific discounts for Microsoft software
 - The technical design of the on-premise target architecture (Option 2)
- Microsoft SMEs were used to provide:
 - Retail software licensing costs for the Outsource BPOS solution
 - Provide network bandwidth comparisons from similar environments
- Excipio SMEs were used to:
 - Provide industry standard information and analysis from past Excipio clients
 - Validate and act as the intermediary among all parties to ensure all assumptions and critical data were agreed upon by all parties
 - Consolidate the various sources into a business case for the SoWA

After interviewing the SMEs, Excipio cross-referenced the data against internal documentation to check for discrepancies or large deltas. The data was categorized and analyzed for material impact to the bottom line, overall risk, and probability of occurrence. Any areas of discrepancy were brought to the attention of the SoWA project staff for agency clarification or additional explanation. Excipio also used relevant data points from other Excipio clients, industry analysts, and research articles.

Assumptions

The following are key assumptions used to generate this analysis.

General

- All information provided from the agencies is materially accurate; undisclosed variances would probably have an impact on the recommended results.
- All information provided from Microsoft is materially accurate at the time provided; undisclosed variances could have an impact on the recommended results.
- All hardware pricing was provided by the agencies; where data was incomplete, Excipio used data from other agencies to make reasonable estimates.
- All Microsoft pricing was provided by Microsoft and based on a BPOS Dedicated environment.
- Where information was not available, Excipio used actual data from similar client engagements.
- The state environment is assumed to have the following characteristics:
 - Enterprise Client Access License (eCAL) users – 11,274
 - Remote/Outlook Web Access (OWA) users – 1,000
 - All other users were assumed to use the full Outlook client

Finance

- The Cost of Capital for internal funds is 6.68%.
- Effective Tax Rate is 0%.
- The economics are projected with an 85% accuracy to provide enough information for directional planning purposes only.
- This is not a bid for services; nor is any party contractually bound to execute under this economic analysis.

Servers

- All messaging and Blackberry servers are included in this analysis.
- All supporting infrastructure (instant messaging, domain controllers, anti-virus, etc.) servers where provided, are included in this analysis.
- The design for the Microsoft platforms was provided to Excipio by DIS, who consulted with Microsoft in creating the design.
- Any existing production servers still have useful cycles and can be used elsewhere within the agencies. For example, some of the support servers may require a different physical server during the transition process. Excipio assumed that any displaced servers could be utilized for these types of roles.
- In general, the development and test environments would require new servers versus using older servers retired from the existing production environment. The new architecture requires x64 technology, which has only been out for roughly twelve months. Where possible, Excipio recommended the use of server Virtual Machine (VM) sessions.
- Excipio assumed a 50:1 server instance per server administrator ratio for purposes of this assessment in the DIS Upgrade and Centralization scenario.

Software

- While Excipio attempted to use the individual agency pricing in the analysis, Excipio opted to use the SoWA Enterprise Agreement pricing in order to ensure consistency across the entire population for the following reasons:
 - Although the Microsoft software licensing data was requested from the agencies, only 30% provided any Microsoft licensing costs
 - Of the agencies that did provide costs, the values were inconsistent indicating that the information was inaccurate or a lack of centralized procurement across the state.
- All Microsoft licensing pricing assumes the agencies use the SoWA Microsoft Enterprise Agreement (EA), therefore the pricing only reflects the cost of Microsoft's Software Assurance (SA).
- The number of Microsoft Office Communication Server (OCS) CALs matches the number of eCALs

Figure SA-2: Microsoft Licensing

	CAL Assumptions	Metric	License Type	Cost	Billing Frequency	Annual Cost
Operating Systems						
Standard		per server	SA	\$ 118.62	Annual	\$ 118.62
Enterprise		per server	SA	\$ 384.06	Annual	\$ 384.06
OCS						
Standard		per server	SA	\$ 115.30	Annual	\$ 115.30
Enterprise		per server	SA	\$ 659.45	Annual	\$ 659.45
CALs - Standard	66,247	per store	SA	\$ 4.18	Annual	\$ 4.18
CALs - Enterprise	11,274	per store	SA	\$ 16.73	Annual	\$ 16.73
	CAL Assumptions	Metric	License Type	Cost	Billing Frequency	Annual Cost
Exchange Server						
Standard		per server	SA	\$ 115.30	Annual	\$ 115.30
Enterprise		per server	SA	\$ 659.45	Annual	\$ 659.45
CALs - Standard	11,274	per store	SA	\$ 8.36	Annual	\$ 8.36
CALs - Enterprise		per store	SA	\$ 12.54	Annual	\$ 12.54
SQL Server						
Standard		per server	SA	\$ 145.99	Annual	\$ 145.99
Enterprise		per server	SA	\$ 1,398.54	Annual	\$ 1,398.54
BPOS						
BPOS Dedicated		fixed fee	SUB	\$ 72,949	Monthly	\$ 875,388
BPOS Email from Core CAL	67,618	per mailbox	SUB	\$ 1.93	Monthly	\$ 23.16
BPOS Email from eCAL		per mailbox	SUB	\$ 1.93	Monthly	\$ 23.16
BPOS Suite Dedicated		fixed fee	SUB	\$ 93,482	Monthly	\$ 1,121,784
BPOS Suite from Core CAL		per mailbox	SUB	\$ 2.57	Monthly	\$ 30.84
BPOS Suite from eCAL	11,274	per mailbox	SUB	\$ 2.57	Monthly	\$ 30.84
BPOS Archive		per TB	SUB	\$ 1,493.00	Monthly	\$ 17,916
BPOS Archive		per user	SUB	\$ 1.76	Monthly	\$ 21.12
Blackberry Hosting	3,846	per device	SUB	\$ 5.00	Monthly	\$ 60.00

- Blackberry-specific assumptions are as follows:
 - Due to the excessive MAPI traffic generated with Blackberry devices, the servers must be located in close proximity to the Exchange servers.
 - Blackberry devices will not have the ability to have applications provisioned “over the air” and must be tethered to a physical device to be configured.
 - Any Windows Mobile™ or iPhone™ devices will use ActiveSync™, which is a free connection service to any BPOS Exchange 2010 user.

Exchange Mail Migration

- The state would contribute environment knowledge and a liaison team during the migration effort.
- The state would require staff augmentation for desktop support dedicated to the migration. The desktop technician resources are \$35-\$45/hr.
- The state would require staff augmentation for service desk support dedicated to the migration. The service desk resources are \$0.88 - \$1.10 per call (labor cost only) based on:
 - The total labor cost provided - \$140,385 per year
 - The number of total service desk calls, assumed at one call per user per month = 66,247
 - The percentage service desk calls that are mail related, which was a weighted average of 16%-20% of total calls.
 - Sample calculation:
$$\text{Total labor} / 12 \text{ month} / (\text{total monthly calls} * \text{mail related} \%)$$
$$\$140,385 / 12 \text{ months} / (66,247 * 18\%) = \$0.98 \text{ per call}$$
- Administrator training was included in the assessment.
- End user computer-based training was not included in the assessment.

Other Infrastructure

- Storage hardware Cost per GB – The total capacity of the storage hardware greatly exceeded the amount of storage required to support the mail environment, thus Excipio used this information to create a standard cost per Gigabyte (GB) of data storage that was used in the analysis. The calculation was as follows:

28 devices @ \$4,757,474 total replacement cost / 5 useful life = \$951,495 + \$153,056 in annual maintenance = \$1,104,551 / 312,335GB total reported capacity = \$3.54/GB

- Tape backup hardware Cost per GB – Excipio used the same method for tape backup, since it was unclear if the hardware was mail only or if it supported the storage capacity reported. The calculation was as follows:

59 devices @ \$3,443,542 total replacement cost / 5 useful life = \$688,708 + \$209,788 annual maintenance = \$898,496 / 312,335GB total capacity = \$2.88/GB

- Very few agencies were able to provide storage related specifically to email use. Excipio assumed 30TB of data storage was related to email for both future state scenarios.

- All LAN infrastructure considerations were excluded from this analysis, as all parties agreed the supporting infrastructure would not be significantly affected by a platform change.
- All software interfaces to the network, storage, archive, and backup capabilities were reviewed to determine if the interface or costs would continue to operate if converted to a Microsoft collaboration platform. Based on vendor-supplied information, Excipio believes that none of the components would be significantly impacted by a migration to an alternative platform.







Additional Assumptions

- The Exchange 2010 solution will leverage existing Active Directory Global Catalog servers, event alert monitoring servers, certificate services, Domain Name System (DNS), Windows Internet Name Service (WINS), identity management, archiving, patch management, and other infrastructure services.
- Existing deployment capabilities will be leveraged to deploy the Microsoft Office 2010 client.
- Existing backup and recovery software will support Exchange 2010.
- The standard Service Level Objective (SLO) of the messaging environment is a 4-hour return to service.

BPOS CAL Suite Components

It is common for the different Microsoft licensing components to create confusion regarding what is included or excluded between the Core and Enterprise CAL Suites. Excipio has included Figure SA-3 to help clarify the differences.

Figure SA-3: CAL Suite Components

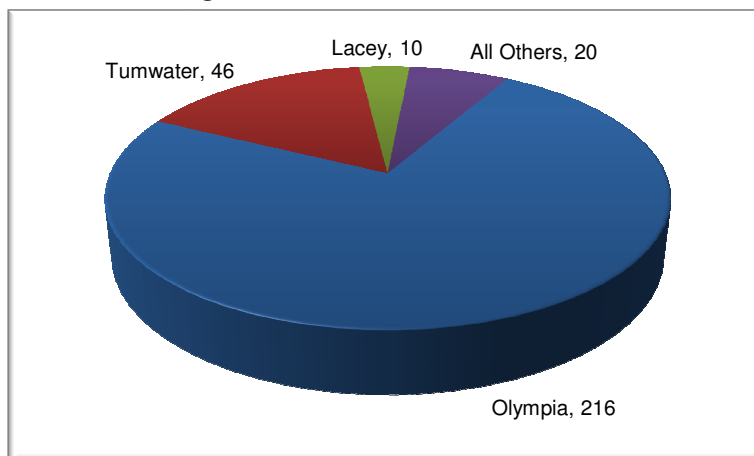
Server CAL		Core CAL Suite	Enterprise CAL Suite
 Windows Server	Windows Server Standard	•	•
	Active Directory Rights Management Services		•
 Exchange Server	Exchange Server Standard	•	•
	Exchange Server Enterprise		•
 SharePoint	SharePoint Standard	•	•
	SharePoint Enterprise		•
 Office Communications Server	Office Communications Server Standard		•
	Office Communications Server Enterprise		•
 System Center	System Center Configuration manager	•	•
	System Center Client Management Suite		•
 Forefront	Forefront Protection Suite		•
	Forefront Unified Access Gateway		•

Current State Overview

Overview

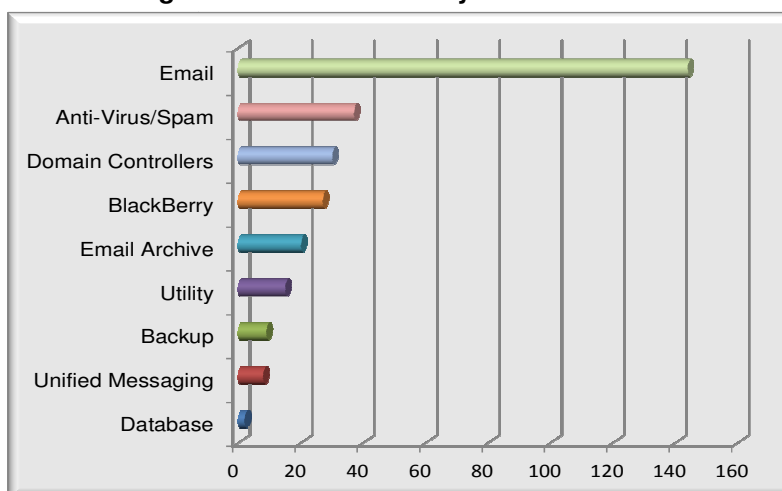
Before looking at each of the key components influenced by a major platform migration, it is important to have a basic understanding of the number of servers and components potentially affected. The in-scope email environment affects 292 servers across 32 different data centers, although 152 of the servers (52%) reside in the DIS data center facility.

Figure CSO – 1: Server Locations



The servers provide a variety of functions, as shown in Figure CSO-2. The email servers only account for 144 of the 292 total servers, which is approximately 49% of the total infrastructure. The 292 servers cover a variety of roles, as shown in Figure CSO-2 below. The appreciation for this complexity is often lost by non-technical executives and business resources.

Figure CSO – 2: Summary of Server Roles



Benchmarks

The service of email is considered a commodity product, meaning the function of the service, in general terms, is the same for any organization (private or public) and spans any industry. In order to understand the complexity of the SoWA email infrastructure, Excipio has provided benchmarks in Figure CSO-3 to compare against similar organizations. As with most large organizations, the complexity varies greatly with the business requirements for uptime, security, routine maintenance, and support structure. Items in green are a good match to peer and industry standards, yellow items are a moderate variance from the expected range, and items in red are major variances.

Figure CSO – 3: Comparison Benchmarks

	Client I	Client II	Client III	Client IV	Industry Standard	State of WA Current State
Company						
# Seats	30,000	39,325	44,442	27,240		66,247
Market Segment	Medical	Insurance	Financial	Retail		Public Sector
# Primary Data Center Locations	1	2	2	13	2	32
Use of Virtualization	None	None	None	None	None/Light	Light
Hardware Refresh Cycle	5 yrs	5 yrs	5 yrs	5 yrs	5 yrs	5 yrs
User Characteristics						
Corporate Users	27,000	35,000	29,442	23,352		65,247
Remote eMail Users	3,000	4,325	15,000	3,888		1,000
Maximum Storage per User	200MB	200MB	250MB	100-400MB	250 - 500	50MB-Unltd
Servers (Hardware Only)						
# Exchange eMail Servers	17	10	24	54	1:8K Users	144
# OCS Servers	5	N/A	4	6	1:10K Users	8
# Other Servers/Devices	N/A	N/A	38	65	Varies	140
Hardware Standards	Sun, IBM and HP	HP	HP	HP	Varies	HP, Dell, IBM
Cost per Server Instance (annual hardware cost, maintenance, support)	\$5,016	\$3,200	\$1,937	\$1,357	\$1.2K - \$2.5K	\$1,992
Cost per Seat	\$3.68	\$2.12	\$2.88	\$6.23	Varies	\$8.78
Storage/Backup (Hardware Only)						
Total GB	7,324	7,681	54,252	12,000		19,675
Storage per GB	\$14.34	\$12.39	\$5.00	\$2.17	\$10 - \$15	\$5.40
Backup per GB	\$9.68	\$8.23	\$15.00	\$0.78	\$7 - \$10	\$4.39
Avg MB per named user	250	200	250	128	200 -400	304
Cost per Seat	\$5.86	\$4.03	\$24.41	\$1.07	\$4 - \$6	\$2.91
Software						
Exchange CAL Type	Std Only	Std Only	Std Only	Connector & Enterprise	Exchange Std Only	Standard and Enterprise
Exchange Maintenance	N/A	\$13.33	\$8.23	\$22.33**	\$10 - \$12*	\$11.07
OCS Maintenance	N/A	\$2.12	\$2.46	\$12.61**	\$2 - \$3	\$4.27
# OCS Users	30,000	39,325	20,000	16,784	Varies	11,274
Web Collaboration	\$10.38	\$8.73	\$6.15	\$12.21	\$6 - \$10	N/A
Other Software						\$9.26
Cost per Seat	\$10.38	\$24.18	\$16.84*	\$47.15	\$15 - \$25	\$21.06
Facilities						
Annual Facilities Costs	\$132,000	\$180,960	\$475,200	\$23,555	Varies	\$307,106
# Physical Servers in Data Centers	22	10	66	73	Varies	259
Cost per Server	\$6,000	\$18,096	\$7,200	\$323	\$5K - \$8K	\$1,186
Cost per Seat	\$4.40	\$4.60	\$10.69	\$0.86	\$4 - \$6	\$4.64
Staffing						
# eMail Admins FTEs	4	4.25	4	6.5	Varies	4.95
# Users per Exchange Admin	7,500	9,253	11,111	4,191	8,000:1	13,383
Other eMail-Related Support FTEs (excluding eMail Admins)	1.0	1.0	1.5	2.8	2 - 3	18.0
Cost per Seat	\$16.67	\$10.42	\$10.49	\$29.03	\$10 - \$15	\$28.21
Annual Cost per User	\$40.99	\$40.75	\$54.62	\$83.48	\$40 - \$55	\$65.60

*No maintenance was required for OWA users

** Denotes Enterprise versus Standard licensing

In the preceding chart, the following are general characteristics of the comparison organizations:

Client I

- Used leased enterprise-class servers, hosted in a collocation facility
- Did not pay Software Assurance (SA) on any Microsoft products
- OCS was not included in the analysis
- Solution did not include any DR capabilities

Client II

- Used large commodity grade servers, hosted in a collation facility
- Solution did not include any DR capabilities

Client III

- Used typical commodity servers for all servers
- All storage was kept on Direct Attached Storage Device (DASD) disk
- One-third of the environment only used the Microsoft web-client Outlook Web Access (OWA), thus not requiring any additional licensing

Client IV

- Used commodity servers for all servers in a highly decentralized environment
- All data center facilities costs were excluded, thus only utilities were reported
- All storage was kept on Storage Area Network (SAN), but the staffing and hardware costs of the storage/backup hardware were intentionally under-reported by the client
- The client was 100% licensed with eCALs for the corporate users, but had a unique "store connector" model with Microsoft due to the uniqueness of the retail market sector

Observations

Figure CSO-3 compares the cost of common platform components for the purpose of benchmarking. This chart is not intended to represent the total cost of the SoWA environment. The benchmark comparison clients come from other Excipio clients whose scope included additional infrastructure components.

The following are Excipio's general observations regarding SoWA Exchange infrastructure:

- Mailbox size limits are not consistently enforced across the organization. While 80% of the environment uses reasonable limits in the 100-250MB range, some organizations averaged more than 2GB per user. Some agencies without mailbox size limits, reported mailboxes up to 12GB.
- The number of servers dedicated to mail is significantly higher than other organizations.
- The supporting infrastructure is more complex than the benchmark peers. This is primarily due to the decentralized Exchange model, where each agency currently has the ability to operate their email environment autonomously.

- The storage costs are below recent data points from industry peers and the market, but this is probably due to an under-reporting of hardware maintenance based on a ratio of the reported maintenance versus the replacement costs provided.
- Mail backup retention policies are inconsistent across the state. For example:
 - DIS only retains email for thirty days before it is vaulted. The vaulted mail is replicated across multiple devices and to a remote location, where it is vaulted for three to seven years based on the agency requirements.
 - Some agencies back up daily and retain all email for a period of seven years.
 - Some agencies back up email weekly and retain email indefinitely.
- As SoWA data center facilities were out of scope, the facilities costs only include utilities estimates; thus costs are significantly below peers and industry standards.
- The amount of staff reported as being “mail-related” across the agencies, was significantly above peers and industry standards. This is typical in a decentralized strategy, and one of the major reasons organizations centralize the infrastructure and support.

The following chart captures the ongoing annual maintenance costs associated with the various applications and technologies. The Exchange environment combined accounts for 58% of the total \$1.44M spent annually.

Figure CSO – 4: Software Costs

Application	Annual Maintenance	%
Microsoft Software	\$ 830,131	58%
Anti-virus/SPAM	\$ 349,068	24%
Blackberry	\$ 186,107	13%
Other Utilities	\$ 75,414	5%
Totals	\$ 1,440,720	100%

Supporting Infrastructure Impact

Overview

When considering a platform change of this magnitude, the decision can often be made solely from the impact to the peripheral applications that provide core infrastructure support. While this is less an issue in more recent years, reviewing application dependencies is a key variable to consider. In the following section, Excipio reviewed the effect of centralizing or outsourcing the Exchange platform.

Current Applications

In Figure SII-1 below, SoWA uses a variety of vendors and solutions to secure, communicate, and meet regulatory compliance demands. In all, SoWA requires 148 servers to support the Exchange infrastructure. Included in this server count are eight servers dedicated to OCS instant messaging, which are used by an estimated 11,724 users across the organization. This estimate was based on the number of Enterprise CALs currently licensed across the state.

Figure SII – 1: Current Supporting Infrastructure

Agency	Agency Location	Primary Purpose	Operating System	Qty	Replacement Cost per Unit	Total Cost
ATG	Olympia	Anti-Virus/Spam	W2K3 Standard	1	\$ 10,031	\$ 10,031
		BlackBerry	W2K3 Standard	1	\$ 9,756	\$ 9,756
		Email Archive	W2K3 Enterprise	1	\$ 27,126	\$ 27,126
		Email Archive	W2K3 Standard	1	\$ 10,200	\$ 10,200
DFI	Tumwater	BlackBerry	W2K3 Standard	1	\$ 9,873	\$ 9,873
DIS	Olympia	Anti-Virus/Spam	W2K3 Standard	1	\$ 13,882	\$ 13,882
		BlackBerry	W2K3 Standard	2	\$ 6,671	\$ 13,342
		BlackBerry	W2K8 Standard	13	\$ 540	\$ 7,016
		Domain Controllers	W2K3 Standard	10	\$ 5,248	\$ 52,479
		Email Archive	W2K3 Standard	18	\$ 7,581	\$ 136,462
		Unified Messaging	W2K3 Standard	2	\$ 500	\$ 1,000
		Unified Messaging	W2K8 2008	2	\$ 5,532	\$ 11,064
		Unified Messaging	W2K8 Standard	4	\$ 373	\$ 1,490
DOC	Olympia	Anti-Virus/Spam	Other N/A	2	\$ 7,762	\$ 15,524
	Tumwater	Domain Controllers	W2K3 Enterprise	3	\$ 7,762	\$ 23,286
	Tumwater	Utility	Other N/A	2	\$ 30,000	\$ 60,000
DOH	Liberty Lake	Anti-Virus/Spam	Linux 6.7.1	1	\$ 7,345	\$ 7,345
	Liberty Lake	BlackBerry	W2K3 Standard	1	\$ 6,000	\$ 6,000
	Tumwater	Anti-Virus/Spam	Linux 6.7.1	2	\$ 7,345	\$ 14,690
	Tumwater	Anti-Virus/Spam	W2K3 Standard	1	\$ 7,000	\$ 7,000
	Tumwater	BlackBerry	W2K3 Standard	1	\$ 7,000	\$ 7,000
	Tumwater	Utility	W2K3 Standard	1	\$ 6,000	\$ 6,000
DOL	Olympia	Anti-Virus/Spam	W2K3 Standard	2	\$ 5,000	\$ 10,000
		Utility	W2K3 Standard	1	\$ 5,000	\$ 5,000
DRS	Olympia	Anti-Virus/Spam	N/A N/A	2	\$ 7,345	\$ 14,690
DSHS	Olympia	Anti-Virus/Spam	Linux N/A	2	\$ 5,900	\$ 11,800
		Anti-Virus/Spam	W2K3 Standard	3	\$ 13,633	\$ 40,900
		Backup	N/A N/A	2	\$ 149,000	\$ 298,000
		Backup	W2K3 Enterprise	6	\$ 6,298	\$ 37,788
		BlackBerry	W2K3 Standard	4	\$ 4,500	\$ 18,000
		Database	W2K3 Enterprise	2	\$ 4,500	\$ 9,000
		Domain Controllers	W2K3 Standard	6	\$ 5,500	\$ 33,000
		Utility	N/A N/A	2	\$ 27,559	\$ 55,118
		Utility	W2K3 Enterprise	1	\$ 4,500	\$ 4,500
		Utility	W2K3 Standard	2	\$ 4,500	\$ 9,000

Figure SII – 1: Current Supporting Infrastructure – Cont'd

Agency	Agency Location	Primary Purpose	Operating System	Qty	Replacement Cost per Unit	Total Cost
ECY	Lacey	Anti-Virus/Spam	Free BSD N/A	2	\$ 4,500	\$ 9,000
ESD	Olympia	Anti-Virus/Spam	VM/Appliance	1	\$ 31,500	\$ 31,500
			W2K3 Enterprise	1	\$ 10,500	\$ 10,500
			W2K3 Standard	3	\$ 24,500	\$ 73,500
HCA	Lacey	Anti-Virus/Spam Utility	W2K3 Standard	4	\$ 6,500	\$ 26,000
			W2K3 Standard	1	\$ 6,500	\$ 6,500
LIQ	Olympia	Domain Controllers	VMware ESX	7	\$ 17,873	\$ 125,110
			VMware GSX	1	\$ 6,500	\$ 6,500
			W2K Advanced	2	\$ 14,461	\$ 28,922
			W2K8 Standard	1	\$ 6,500	\$ 6,500
LNI	Olympia	Anti-Virus/Spam	W2K3 Standard	1	\$ 10,400	\$ 10,400
OFM	Olympia	Anti-Virus/Spam	W2K3 Standard	2	\$ 4,000	\$ 8,000
		Backup	W2K3 Standard	1	\$ 7,500	\$ 7,500
OSPI	Olympia	Anti-Virus/Spam	N/A N/A	1	\$ 4,000	\$ 4,000
WSDOT	Olympia	Anti-Virus/Spam	Linux Linux Appliance	2	\$ 4,103	\$ 8,206
		BlackBerry	W2K3 Standard	1	\$ 4,103	\$ 4,103
		Utility	W2K Standard	1	\$ 4,468	\$ 4,468
		Utility	W2K3 Standard	1	\$ 4,468	\$ 4,468
WSP	Tumwater	Anti-Virus/Spam	W2K3 Standard	3	\$ 7,505	\$ 22,515
		BlackBerry	W2K3 Standard	3	\$ 5,170	\$ 15,510
		Utility	W2K3 Standard	1	\$ 7,505	\$ 7,505
		Utility	W2K8 Enterprise	2	\$ 7,505	\$ 15,010
Grand Total				148	\$	1,433,079

Proposed Changes

Figure SII-2 below lists the current applications and the projected impact based on the following data sources:

- Agency staff working knowledge
- Excipio staff knowledge and research of the products based on vendor websites
- Phone calls to vendor sales lines to place specific inquiries

Applications in green would require little to no change, as they are already compliant. Applications in yellow will require the conversion to a compatible version. All of the vendors stated that this was a free conversion cost as long as the product was under maintenance.

Figure SII – 2: Impact of Platform Change

Current Environment	Purpose	DIS Centralization Impact	Reason	BPOS Impact	Reason
Blackberry	Mobile device communications	Upgrade to ver 5.x required	Ver 5.x required for compatibility with 2010	Move to MSFT Hosted Solution	MAPI traffic requires close proximity
Exchange	Email	Upgrade to 2010 required	No technology impact	Upgrade to 2010 required	No technology impact
IronPort	Anti-Virus and SPAM filtering	Retire existing tools	DIS standard will be Ironport	Goes Away	MSFT Forefront included in service
OCS	Chat, presence, internal webcast	MSFT Office Communications Server	Standardization for unified messaging	MSFT Office Communications Server	No technology impact

Bandwidth Impact

One of the primary issues Excipio sees with the BPOS model is the potential impact to network bandwidth, both internal between locations via the wide area network (WAN) and external Internet connectivity required to connect to Microsoft. Excipio approached this from two different directions. First, metrics and traffic estimates were requested from each of the agencies, which are summarized in the chart below.

Figure SII – 3: DIS Estimates

Agency	Site Name	A	C = B / A	B	D	E	G = (C+F) / 1024	H = G / D	I = E + H
		Number of Users	Estimated Per User Usage (KB/s)	Total Server Traffic (KB/s)	Circuit Size (MB/s)	Circuit Utilization	Conv to MB/s	Potential Impact	Est Total Utilization
ATG	Capital Court - Olympia	2,220	0.25	3,128	100.0	10%	3.05	3.1%	13%
	Seattle	405	1.75	710	10.0	10%	0.69	6.9%	17%
	Spokane	135	2.83	382	10.0	10%	0.37	3.7%	14%
DFI	DFI	183	-	-			Included in DIS calcs		
DFW	DIS Data Center	1,696	0.27	459			Included in DIS calcs		
DIS	DIS Data Center	11,363	0.53	6,051	1,000	0%	5.91	0.6%	1%
DNR	NRB	-	-	7			Included in DIS calcs		
DOC	DOC - HQ	10,272	0.12	1,203	1000	1%	1.17	0.1%	1%
DOH	Liberty Lake	1,176	-	-	25.0	1%	0.00	0.0%	1%
	Tumwater	3,272	0.26	838	100.0	10%	0.82	0.8%	11%
DOL	Olympia	3,382	9.08	30,720	100.0	12%	30.00	30.0%	42%
DOP	(blank)	191	0.54	103			Included in DIS calcs		
DOR	DOR	1,640	28.22	46,280	100.0	12%	45.20	45.2%	57%
DRS	Tumwater	250	0.66	165	1.5	60%	0.16	10.8%	71%
DSHS	OB2 ALC2	22,444	0.29	6,452			Included in DIS calcs		
ECY	EcyCroYak/Yakima	133	1.60	212	10.0	50%	0.21	2.1%	52%
	EcyEroSpo/Spokane	143	1.05	150	10.0	60%	0.15	1.5%	61%
	EcyLcyHq/Lacey	1,000	1.88	1,880	100.0	30%	1.84	1.8%	32%
	EcyNwrfoRch/Richland	59	4.45	263	10.0	20%	0.26	2.6%	23%
	EcyNwroBlv/Bellevue	204	1.82	372	10.0	70%	0.36	3.6%	74%
ESD	OB2	3,182	2.69	8,544			Included in DIS calcs		
	Seattle Telecenter	364	1.73	629	100.0	70%	0.61	0.6%	71%
	Spokane Telecenter	251	1.14	286	100.0	1%	0.28	0.3%	2%
HCA	HCA Lacey Office	267	0.00	1	1.5	43%	0.00	0.0%	43%
	HCA Seattle Office	28	-	-	10.0	40%	0.00	0.0%	40%
LIQ	HQ	455	0.37	167	100.0	43%	0.16	0.2%	43%
OFM	OB-2 Ala Carte	474	1.69	802			Included in DIS calcs		
OSPI	OSPI	400	0.57	227	100.0	12%	0.22	0.2%	12%
WSDOT	Olympia	2,521	0.31	790	100.0	60%	0.77	0.8%	61%
	Seattle	3,482	0.18	620	100.0	30%	0.61	0.6%	31%
	Spokane	585	0.03	18	100.0	20%	0.02	0.0%	20%
	Tumwater	1,035	0.02	19	100.0	70%	0.02	0.0%	70%
	Vancouver	924	0.00	4	100.0	1%	0.00	0.0%	1%
	Wenatchee	359	0.18	65	100.0	0%	0.06	0.1%	0%
	Yakima	667	0.04	28	100.0	1%	0.03	0.0%	1%
WSP	Tumwater Square	2,278	0.00	11	50.0	24%	0.01	0.0%	24%
Totals		77,440	1.44	111,586					
Conversion to MB/s				109					

In Figure SII-3 above, Excipio made assumptions for incomplete data, which is indicated in green highlights. In red highlights, Excipio has indicated abnormally high server traffic statistics when compared to other agency traffic. In both cases, the agencies reviewed this data to validate these assumptions and verify the traffic data.

Second, Excipio looked to Microsoft to provide bandwidth estimates from the users who are already subscribing to the service. Microsoft provides the following user classifications:

Figure SII – 4: Microsoft User Classifications

Activity	Light	Medium	Heavy	Very heavy
Messages sent per day	5	10	20	30
Messages received per day	20	40	80	120

E-Mail Client	Light	Medium	Heavy	Very Heavy
Office Outlook	1,300 KB/day/user	2,600 KB/day/user	5,200 KB/day/user	7,800 KB/day/user
OWA	6,190 KB/day/user	12,220 KB/day/user	24,270 KB/day/user	36,330 KB/day/user

Using these assumptions, Excipio rounded up and assumed that all users are “heavy” users for purposes of the following calculations:

Figure SII – 5: Bandwidth Comparisons

Calculation Basis	A Total Mail Accounts	B KB/s	C = A * B Total KB/s	D = C / 1,024 Conversion to MB/s
State Per User Estimates	78,892	1.44	113,604	111
Excipio estimate using MSFT method	78,892	1.44	113,955	111

Observations

- Some of the data provided by the agencies had to be interpreted or assumed in Figure SII-3 due to missing values. These fields were highlighted in green on the previous chart
- Two agencies, even when clarified with the agencies, reported questionable server traffic volumes when compared against the other agencies. These values are highlighted in red in Figure SII-3 and should be validated should the SoWA move forward with either of the future state options. It should be noted that the server traffic values appear to be very inconsistent in general and should be investigated further. However, the server traffic in total aligns with expectation from Microsoft and previous Excipio engagements.
- Based on the data provided, none of the agencies would be required to increase bandwidth capacities in either of the future state scenarios.
- By converting the Microsoft estimate in Figure SII-4 for “heavy” mail users to Kb/s (5,200 Kb/day / 8 work hours/day / 3,600 sec/day = .185 KB * 8 bits/byte = 1.44KB/s), which coincidentally matched the 1.44KB/s per user in Figure SII-3.

- Both methods estimate aggregate totals of 109MB/s – 111MB/s, which is well within the available capacity of the 1GB circuit DIS has in place today for either of the future state options.

Electronic Mail

Overview

The current environment consists of approximately 66,247 named Exchange users, along with 12,645 non-named accounts (typically shared mailboxes, distribution lists, and conference rooms). All servers are hosted internally, by the various agencies, with approximately 3,200 mailboxes being hosted by DIS on the new Exchange 2010 platform. The estimated 1,000 remote users access Exchange via a combination of Outlook clients and OWA web interface, while the majority of the workforce relies on the Outlook client loaded on the desktop. All users have the ability to access email remotely via web interface.

Current Mail Environment

The following is a complete list of specific servers that support the email infrastructure. This list does not address the ancillary support systems discussed later in this section.

Figure EM – 1: Exchange Servers

Agency	City	Excipio OS	Qty	Average Replacement Cost	Total Cost
ATG	Olympia	W2K3 Standard	6	\$ 9,594	\$ 57,565
	Seattle	W2K3 Standard	1	\$ 26,500	\$ 26,500
	Spokane	W2K3 Standard	1	\$ 12,850	\$ 12,850
DFI	Olympia	W2K3 Enterprise	2	\$ 12,500	\$ 25,000
		W2K3 Standard	1	\$ 543	\$ 543
DFW	Olympia	W2K3 Enterprise	1	\$ 7,762	\$ 7,762
		W2K3 Standard	1	\$ 7,762	\$ 7,762
DIS	Olympia	W2K3 Standard	16	\$ 13,430	\$ 214,881
	Olympia	W2K8 2008	8	\$ 10,627	\$ 85,015
	Spokane	W2K8 2008	3	\$ 5,936	\$ 17,808
DNR	Olympia	Solaris 8	1	\$ 5,000	\$ 5,000
		W2K3 Standard	2	\$ 20,864	\$ 41,728
DOC	Tumwater	W2K3 Enterprise	12	\$ 7,762	\$ 93,144
DOH	Liberty Lake	W2K3 Standard	2	\$ 13,500	\$ 27,000
	Tumwater	NT4 Standard	1	\$ 3,000	\$ 3,000
	Tumwater	W2K3 Standard	5	\$ 7,000	\$ 35,000
DOL	Olympia	W2K3 Enterprise	1	\$ 5,000	\$ 5,000
		W2K3 Standard	2	\$ 5,050	\$ 10,100
		W2K3 Standard	1	\$ 5,000	\$ 5,000
DOR	Tumwater	W2K3 Standard	3	\$ 3,867	\$ 11,600
DRS	Olympia	W2K3 Standard	1	\$ 5,000	\$ 5,000
DSHS	Olympia	W2K3 Enterprise	2	\$ 4,500	\$ 9,000
		W2K3 Standard	25	\$ 8,444	\$ 211,100
ECY	Bellevue	W2K3 Standard	1	\$ 8,000	\$ 8,000
	Lacey	W2K3 Standard	2	\$ 8,000	\$ 16,000
	Richland	W2K3 Standard	1	\$ 8,000	\$ 8,000
	Spokane	W2K3 Standard	1	\$ 8,000	\$ 8,000
	Yakima	W2K3 Standard	1	\$ 8,000	\$ 8,000

Figure EM – 1: Exchange Servers – Cont'd

Agency	City	Excipio OS	Qty	Average Replacement Cost	Total Cost
ESD	Olympia	W2K3 Enterprise	2	\$ 21,000	\$ 42,000
		W2K3 Standard	6	\$ 10,500	\$ 63,000
HCA	Lacey	W2K3 Advanced	1	\$ 6,500	\$ 6,500
	Seattle	W2K3 Standard	1	\$ 6,500	\$ 6,500
LNI	Olympia	W2K3 Standard	3	\$ 10,400	\$ 31,200
OFM	Olympia	Vmware ESX 3.5	2	\$ 625	\$ 1,250
		W2K3 Standard	2	\$ 4,000	\$ 8,000
OSPI	Olympia	W2K8 Enterprise	3	\$ 6,500	\$ 19,500
WSDOT	Olympia	W2K3 Enterprise	7	\$ 4,364	\$ 30,546
	Olympia	W2K3 Standard	3	\$ 4,468	\$ 13,404
	Shoreline	W2K3 Enterprise	2	\$ 4,468	\$ 8,936
	Spokane	W2K3 Enterprise	1	\$ 4,468	\$ 4,468
	Union Gap	W2K3 Enterprise	1	\$ 4,468	\$ 4,468
	Vancouver	W2K3 Enterprise	1	\$ 4,468	\$ 4,468
WSP	Tumwater	W2K3 Standard	1	\$ 7,505	\$ 7,505
		W2K8 Enterprise	4	\$ 7,505	\$ 30,020
Grand Total			144	\$ 1,247,123	

Observations

- The SoWA has a higher number of Exchange servers due to the decentralized structure currently in place. DIS has proposals to consolidate all servers into a single location in the DIS Upgrade and Consolidation scenario.
- If the Microsoft BPOS solution is selected, all of the servers above would no longer be required.

DIS Upgrade and Consolidation Environment

The target architecture is the Microsoft Exchange 2010 platform. Microsoft has made major architecture changes in this latest release to improve collaboration and interoperability between subsequent versions of Office, SharePoint, and OCS, just to name a few. In order to achieve an appropriate technical design, DIS leveraged Microsoft's experience to create a high-availability design. Excipio has estimated the migration costs based on similar client engagements.

The following charts summarize the technologies and functions in the proposed on-premise solution, as designed by the DIS staff.

Figure EM – 2 Server Function

Server Classification	Total Instances	% of Total Instances
Exchange Mail	43	25%
Domain Controllers	70	41%
Utility/Other	28	16%
Enterprise Vault	18	11%
Blackberry	5	3%
Ironport	3	2%
Instant Messaging	3	2%
Total	170	100%

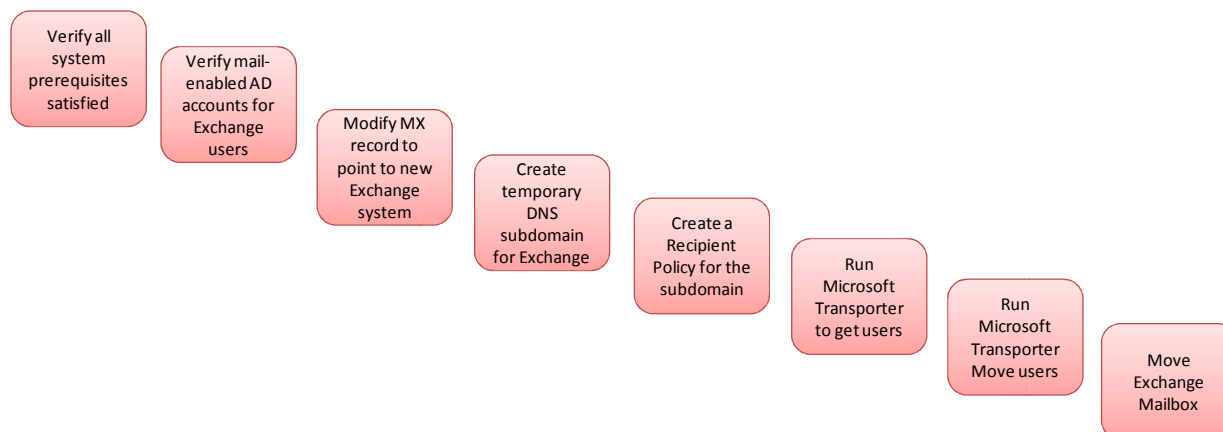
Proposed Microsoft BPOS Standard Environment (aka “Cloud”)

Under this option, the state would have no local resources for any of the in-scope infrastructure.

- The current Microsoft infrastructure (Exchange, OCS, and Blackberry) would reside in the Cloud, hosted and at one or more of Microsoft's facilities.
- The current Active Directory authentication that is dedicated to Exchange would no longer be required. Local file/print activities would be handled by existing Active Directory servers.
- Blackberry messaging servers would be located at Microsoft due to the proximity requirement associated with the Blackberry communication design.

Conversion Estimates

Migrating mail platforms can be a complicated task if not planned, tested, re-planned, and executed appropriately. Below is a high-level overview of the major efforts involved in executing an Exchange migration.



Primary Project Phases

Microsoft would break the project into the following project phases and specific deliverables.

- Plan
 - Hold customer and partner kick-off event
 - Prepare solution alignment and functionality gap analysis
 - Begin trial subscription
 - Validate trial subscription
 - Finalize Master Project Plan and key milestones
 - Learn about types of mailbox migration
 - Learn about available mailbox migration tools
 - Learn about Internet bandwidth testing tools
 - Validate migration velocity numbers based on available bandwidth and mailbox data
- Prepare
 - Prepare the customer Active Directory for directory synchronization
 - Create customer user accounts in Online Services by running the Directory Synchronization Tool (DirSync), or a bulk import via the Microsoft Online Services Administration Center or Manually create users using the Administration Center or PowerShell
 - Ensure client minimum requirements are met in the customer environment (operating system, .NET Framework)

- Validate that client desktop meets Online Services requirements
 - Configure Exchange Online in the Administration Center
 - Configure e-mail coexistence in the Administration Center
 - Enable SharePoint Online, Office Communications Online, and/or Office Live Meeting
 - Submit service requests (SR) for available standard operating procedures (SOP) required by the customer
 - Deploy Sign-In application client and other clients that are required (Outlook, Communicator, and Live Meeting)
 - Provide end user communication regarding the timeline for impending e-mail migration
 - Perform mailbox size reduction
 - Establish the schedule of communications that go to end users regarding the change to Microsoft Online Services
 - Provide end user training
 - Prepare customer service desk to support Online Services solutions
 - Set migration plan (groups and dates)
 - Create Microsoft Online Support awareness/integration
- Migrate
 - Activate users in Administration Center or using PowerShell
 - Execute Migration Plan
 - Execute migration plan and go live

Responsibility Assumptions

The following are assumptions reviewed with DIS to estimate the scope and cost of the project. Given the criticality of this migration, Excipio recommends DIS solicit help from qualified consultants to help with the design, initial implementation, and migration process. Consultant responsibilities would typically include:

Consultant Responsibilities

- Work with SoWA staff to design an infrastructure to support the Exchange users
- Work with SoWA staff to design an infrastructure to support the OCS dependency for enterprise instant messaging
- Retain key design resources through the pilot
- Technical SME support through the migration
- Retention of key design resources during the pilot through production implementation
- The physical migration of the first 12,000 users, the remainder migrated by SoWA

SoWA would have responsibility for:

- The migration plan
- Client deployment software

- Blackberry integration
- Execution of the migration
- Operational readiness and training
- Disaster recovery
- End user readiness and training
- Providing Level 1 support during the migration (Excipio included additional staffing for this requirement)
- An internal SoWA project manager to interface with the Microsoft project manager

Deployment Approach

As with any project of this magnitude, multiple methods exist to execute the deployment. In order to establish a reasonable project baseline, Excipio interviewed DIS staff to determine how similar Exchange mail migration projects are typically executed within the organization. Excipio used these interviews to compare to best practices most palatable to DIS' staff. The following are the assumptions used in the various scenarios presented.

- Although external resources would be required to provide technical expertise and support, DIS desires to have internal resources responsible for the architecture design, proof of concept, and configuration of the environment
- All migrations would be executed using DIS internal staff
- All client software deployments, if required, would be handled via SCCM
- Migrations would be tested using technical groups first (Service Center, Desktop Support, Security, etc.), then rolled out to less critical support groups, then to critical business groups.
- End user training would be handled via:
 - Quick reference cards, created to provide instructions for basic functions
 - Informational emails

Calculation assumptions:

To formulate the transitional costs for the future state options, Excipio assumes the following approach:

- During the pilot, DIS will migrate 125 seats/night/resource = 625 seats/week/resource
- During production, DIS will migrate 400 seats/night/resource = 2,000 seats/week/resource
- For every mailbox migrated, 10% will generate a call to the service desk for support at a rate of \$0.98 per call.
- For every service desk call, 10% will require a desktop visit the following day. Assuming a desktop technician can perform 8 calls per day, DIS may require some minimal investment in temporary support resources.

Excipio has summarized the migration labor effort, as a range of probability between minimum and maximum calculated effort, in Figure EM-3. This methodology is applied to calculate the probable financial impact to the conversion.

Figure EM-3: Conversion Assumptions

Role	Min	Base	Max
Planning and Design			
Total Consultant Hours	150	250	300
Hourly Rate	\$175	\$200	\$225
Exchange Consultants			
Current Mail users	66,247	66,247	66,247
# Mailboxes per Night	400	800	1,200
Total Days for migration	166	83	56
Work days per month	20	20	20
Number of months	9.0	5.0	2.8
Incremental Exchange Admins	1.0	2.0	3.0
Hourly Rate	\$175	\$200	\$225
Service Desk			
Service Desk Conversion Rate	16%	18%	20%
Number of Calls per day	64	144	240
Number of call per month	1,280	2,880	4,800
Number of monthly calls per agent	450	450	450
Incremental Help Desk FTEs	3.0	7.0	11.0
Cost per Call	\$0.88	\$0.98	\$1.10
Desktop Technicians			
Tickets requiring deskside visit	10%	10%	10%
Number of tickets per day	6.4	14.4	24
Number of calls per month	128	288	480
Number of monthly tickets per tech	400	400	400
Incremental desktop techs	0.32	0.72	1.20
Hourly Rate	\$35	\$40	\$45
Project Management			
Total Project Hours	1,110	1,210	1,260
Project Management (% of Hours)	20%	25%	30%
Total PM Hours	222	303	378
Hourly Rate	\$80	\$100	\$120

Financial Summaries

General Summary

The chart below summarizes the current infrastructure and alternative solution costs.

Figure FS – 1 Comparison of Scenario Results

Metric	Current Exchange Platform	Future DIS Centralized Exchange 2010	Future Microsoft Exchange 2010 (BPOS)
Number of Users	66,247	66,247	66,247
Current Number of eMail Server Locations	32	2	N/A
Thick Clients in use	66,247	66,247	66,247
Web Clients in use	0	0	0
Upfront Conversion Costs	N/A	\$2.91M	\$916K
Total Five Year costs	\$21.73M	\$15.99M	\$22.72M
Annualized Operating Costs	\$4.35M	\$3.20M	\$4.54M
Total Five Year Cost per User	\$328	\$241	\$343
Annual Operating Cost per User	\$66	\$48	\$69

All values are based on non-discounted dollars averaged over a five-year timeframe.

Observations

- **Number of Users** – This count represents the number of named-mailboxes associated with the analysis. This metric does not represent total mailboxes at the SoWA (78,892) as it does not include resource mailboxes in the count. Resource mailboxes consist of shared mailboxes, distribution lists, and conference rooms.
- **Number of Email Server Locations** – This represents the number of locations associated with each scenario. The SoWA current state solution infrastructure is located at 32 sites and the DIS Centralized Solution is contained at two. Microsoft was unable to provide details related to the number of physical sites associated with the solution in the Cloud.
- **Thick and Web Email Clients** – For the purposes of this analysis, Microsoft Outlook is the thick client and Microsoft Outlook Web Access (OWA) is the web version. As with many organizations, most to all users primarily use a thick client as OWA is an option for a mobile workforce.
- **Scenario Costs** – The Upfront Conversion Costs, Total Five-Year Costs, and Annualized Operating Costs are the final summary results from the estimated financials for each scenario side-by-side.
- **Cost per User** – There are a couple of financial ratios used in the industry to benchmark email costs for annual financial performance. The primary ratios are Cost per User/Seat and Cost per Mailbox. As explained earlier, a difference exists between these factors. The Cost per User/Seat for the current state is \$65.60 (\$4,345,615 annual operating costs / 66,247 users), but the Cost per Mailbox is \$55.08 (\$4,345,615 annual operating costs / 78,892 mailboxes).

The following are financial summaries for each of the options under consideration. The two charts in the summaries of each option represent a cash basis and a net income basis for accounting perspectives. The detailed financial projections are included in the supporting documentation.

Current State Baseline

Figure FS-3 represents the current annual operating expense for email for the SoWA agencies in scope. Based on the analysis, the SoWA agencies in scope spend \$4.34M per year or \$21.7M over five years.

FS – 3: Current Exchange Environment

State of Washington Current State Baseline								Cash Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)
Revenue / Benefits								
Capital Expenditures								
Pre-Tax Cash Flow		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)
Tax Impact								
Net Cash Flow		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)

State of Washington Current State Baseline								Net Income Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)
Revenue / Benefits								
Depreciation Expense								
Earnings Before Taxes		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)
Tax Impact								
Net Income		(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(4,345,615)	(21,728,076)	(4,345,615)

Observations

- The Current State Baseline represents the estimated annual operating cost to provision and support the current Microsoft Exchange platform. These costs will be the basis for comparison to the alternative solutions.
- The Current State Baseline annual operating cost is estimated at \$4.35M and a five-year cost of \$21.7M.

DIS Centralization Scenario

Figure FS-4 represents the comparison between DIS Centralization Solution and the Current State Baseline over a five-year period. The Operating Expenses and Capital Expenditures itemized in both accounting perspectives, represent the DIS Centralization Solution projections. To complete the comparison, the Revenue / Benefits line represent the Current State Baseline.

FS – 4: DIS Centralization Scenario

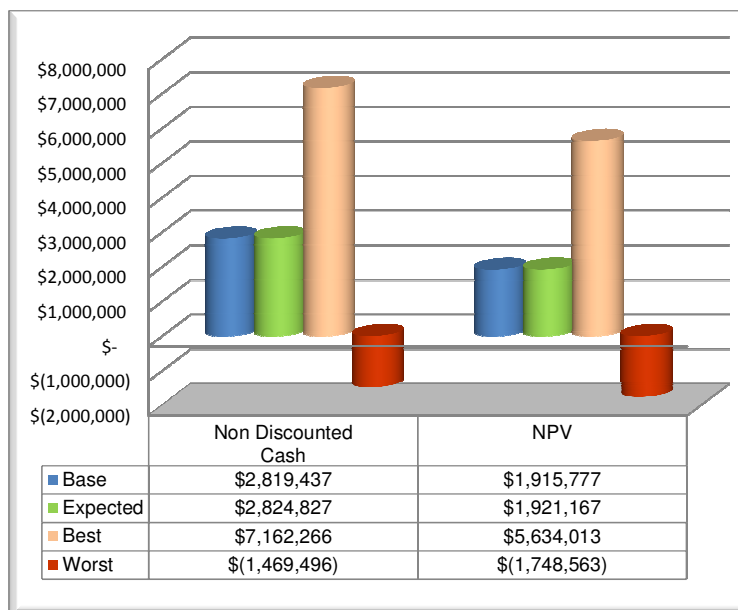
State of Washington DIS Centralization								Cash Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(15,991,543)	(3,198,309)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Capital Expenditures	(2,911,706)						(2,911,706)	(582,341)
Pre-Tax Cash Flow	(2,911,706)	1,147,307	1,147,307	1,147,307	1,147,307	1,147,307	2,824,827	564,965
Tax Impact								
Net Cash Flow	(2,911,706)	1,147,307	1,147,307	1,147,307	1,147,307	1,147,307	2,824,827	564,965

State of Washington DIS Centralization								Net Income Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(3,198,309)	(15,991,543)	(3,198,309)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Depreciation Expense		(571,848)	(571,848)	(571,848)	(571,848)	(624,312)	(2,911,706)	(582,341)
Earnings Before Taxes		575,458	575,458	575,458	575,458	522,994	2,824,827	564,965
Tax Impact								
Net Income		575,458	575,458	575,458	575,458	522,994	2,824,827	564,965

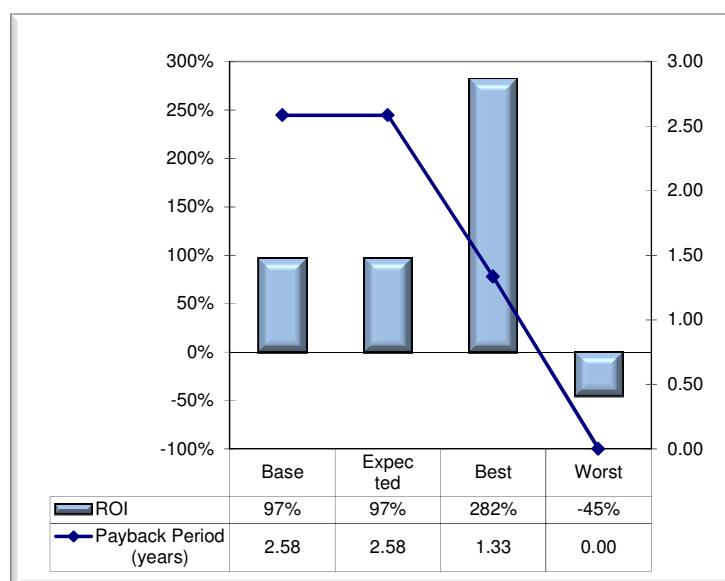
Observations

- The DIS Centralization Solution includes startup costs of \$2.9M with an annual operating cost of \$3.2M per year.
- When compared to the Current State Baseline operation cost of \$4.35M, on a cash basis, the result is an annual operating cost savings of \$1.15M after the startup costs are absorbed.

Range of Results



Expected NPV (ENPV) - As part of the methodology, Excipio defines a range of expected outcomes for each of the capital, expense, and benefit drivers for the project. By using probabilities, an expected case is calculated which is the most probable outcome of all the results combined. In this specific project, migrating to the DIS Centralized Solution will result in an estimated pre-tax savings of \$2.82M over five years when compared to the Current State Baseline.



Observations

- The Expected Case has a 97% return on the \$2.9M initial investment over the five-year plan.
- The Payback Period based on the initial investment is just over 2.5 years, or 31 months.
- This is the most cost-effective scenario for the SoWA.

Outsource Solution (Microsoft BPOS)

Figure FS-5 represents the comparison between Outsource Solution and the Current State Baseline over a five-year period. The Operating Expenses and Capital Expenditures itemized in both accounting perspectives, represent the Outsource Solution projections. To complete the comparison, the Revenue / Benefits line represent the Current State Baseline.

FS – 5: Outsource Solution Summary

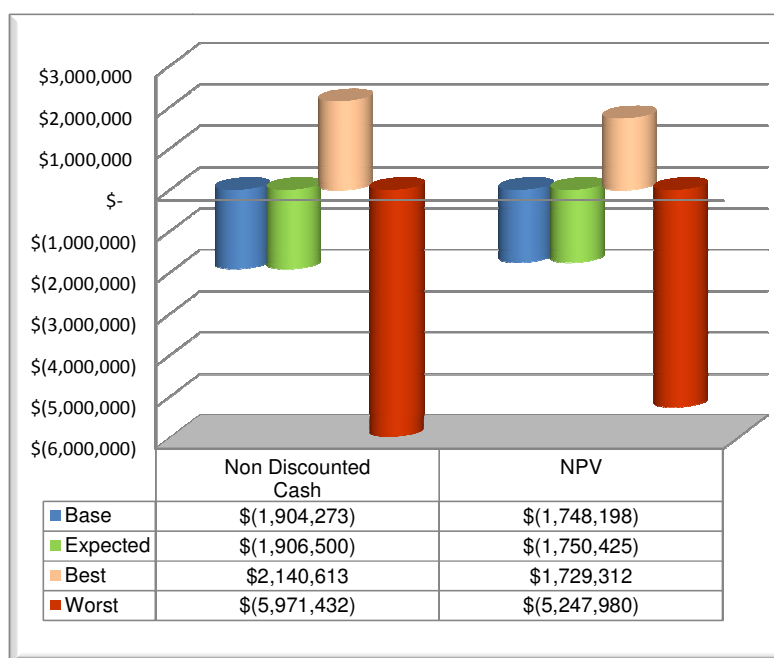
State of Washington Microsoft BPOS								Cash Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(22,718,860)	(4,543,772)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Capital Expenditures	(915,716)						(915,716)	(183,143)
Pre-Tax Cash Flow	(915,716)	(198,157)	(198,157)	(198,157)	(198,157)	(198,157)	(1,906,500)	(381,300)
Tax Impact								
Net Cash Flow	(915,716)	(198,157)	(198,157)	(198,157)	(198,157)	(198,157)	(1,906,500)	(381,300)

State of Washington Microsoft BPOS								Net Income Basis
Components	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	Totals	Annualized
Operating Expenses		(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(4,543,772)	(22,718,860)	(4,543,772)
Revenue / Benefits		4,345,615	4,345,615	4,345,615	4,345,615	4,345,615	21,728,076	4,345,615
Depreciation Expense		(183,143)	(183,143)	(183,143)	(183,143)	(183,143)	(915,716)	(183,143)
Earnings Before Taxes		(381,300)	(381,300)	(381,300)	(381,300)	(381,300)	(1,906,500)	(381,300)
Tax Impact								
Net Income		(381,300)	(381,300)	(381,300)	(381,300)	(381,300)	(1,906,500)	(381,300)

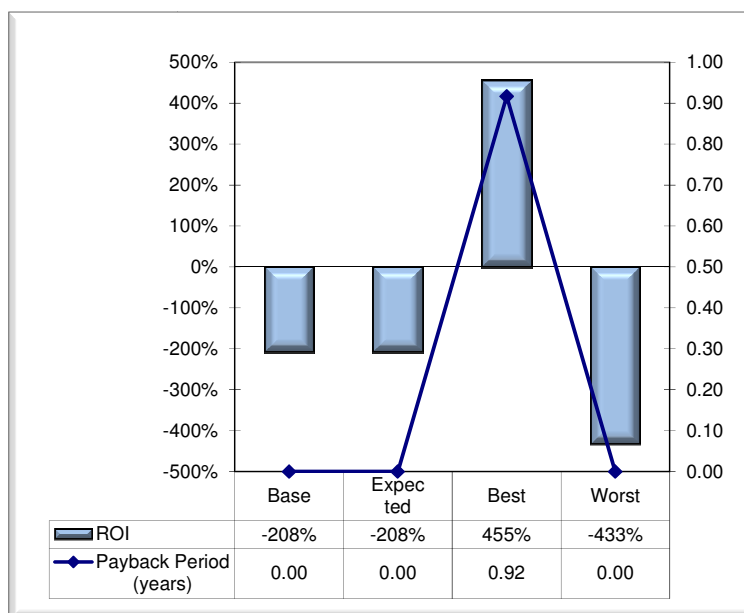
Observations

- The Outsource Solution of Microsoft BPOS Exchange includes startup costs of \$916K with an annual cost of \$4.54M per year.
- When compared to the Current State Baseline annual operating cost of \$4.35M, on a cash basis, the result is an annual operating cost increase of \$200K after the startup costs are absorbed.

Range of Results



Expected NPV (ENPV) - As part of the methodology, Excipio defines a range of expected outcomes for each of the capital, expense, and benefit drivers for the project. By using probabilities, an expected case is calculated which is the most probable outcome of all the results combined. In this specific project, migrating to the Outsource Solution will result in an estimated cost increase of \$1.9M over five years versus the Current State Baseline.

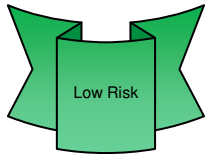


Observations

- The Expected Case has a negative return (-208%) when compared to the Current State Baseline.
- There is no Payback Period as this option is more expensive than the comparative Current State Baseline.

Risk Assessment

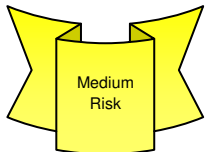
The following risk factors should be taken into consideration when evaluating a future strategy for the email solution.



Current Exchange 2003 to 2010 Upgrade

DIS currently has plans in place to upgrade the current Exchange 2003 to 2010. While the DIS staff is very confident that they fully understand the implications of making this upgrade, Excipio has outside knowledge of other clients that have experienced significant difficulty in making this transition. In isolated instances, the companies fell back to previous versions due to unplanned business interruption. DIS' staff believes this to be a relatively low risk due to the following steps already taken by DIS:

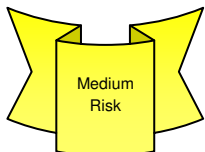
- DIS has experience through conversion and migration projects
- DIS tends to not implement the first version of any application, but purposely waits for the first major service pack or update in order to minimize any conversion risk



Email System Requirements

Further investigation and due diligence needs to be performed to align SoWA email requirements to any outsourced email solution. Meeting SoWA email requirements could have the following outcomes:

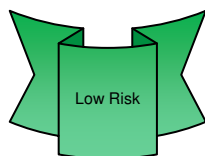
- It would meet all of the requirements and is comparable
- It would increase the base cost due to custom provided capabilities
- It would fail to meet some of the requirements



Business Interruption

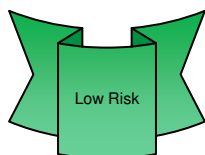
SoWA will experience some amount of business interruption during the transition due to the importance of email in daily operations and workflow.

- Email migration – during the transition, SoWA will likely experience a loss in some collaboration capabilities (ex. shared calendaring, free/busy time, Blackberry, etc.). Parallel operations of both platforms will be required.
- Email, OCS, and Blackberry - although these could be significantly disrupted, using proper co-existence tools would dramatically reduce this risk.
- While SoWA may have some concern over the upfront business interruption, the ongoing gains in end user productivity would occur for multiple years on a go-forward basis. Although IT is typically hesitant to make any migration that may cause business interruption, in cases like this the interruption needs to weigh against the future soft-dollar benefits of increased productivity.



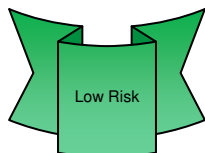
Interface and Integration with Office

As Exchange already exists in the current infrastructure, minimal compatibility or integration issues with the standard desktop productivity suite (MS Office) are expected. Typically, end user productivity increases due to the established collaboration features between Office, Outlook, and Exchange, but this is a soft dollar productivity gain that does not impact SoWA financials. These productivity improvements would only be recognized if SoWA moves to the 2010 version of Office.



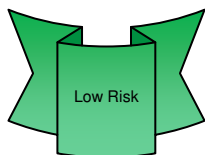
Blackberry Messaging Services

Blackberry is fully supported with the on-premise and off-premise solutions. The conversion process is relatively simple, but will require coordination with the end users as the handheld device must be powered off and on as part of the migration process.



Web Mail Solution

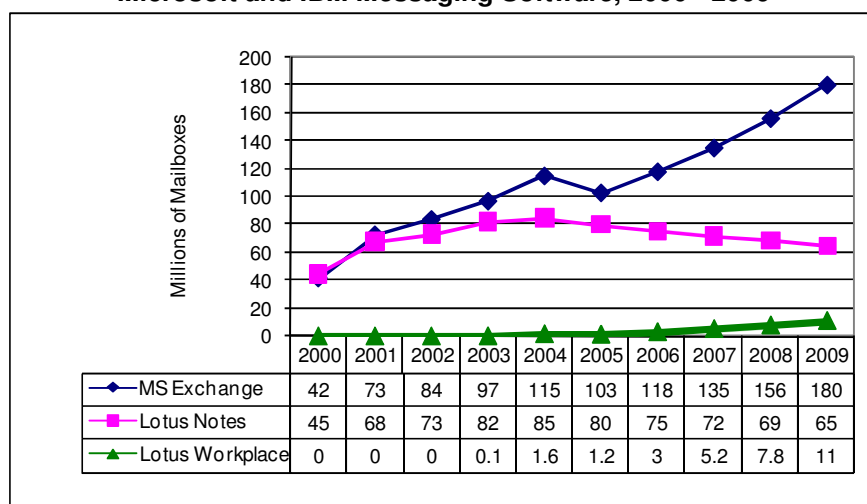
Using Outlook Web Access, Microsoft Exchange will work with a variety of solutions, including a reverse proxy implementation. This can literally allow email access from any terminal anywhere in the world, if desired.

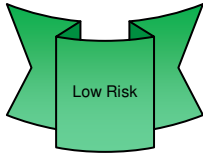


Exchange Dominance to Continue

Exchange continues to be the dominant player in the market for corporate mail users. The chart below shows Exchange's explosive growth against IBM's Notes. However, SoWA should not discount the fact that other organizations are targeting Microsoft's dominance in this space. Google is a great example, and numerous entrants are expected into this market over the next 12-18 months.

Microsoft and IBM Messaging Software, 2000 - 2009





Impact on Staffing

Excipio anticipates a major change from the email administrators used today to support the 2010 Exchange environment. As a general rule of thumb, one Exchange administrator can typically support up to 8,000 end users. The primary efficiencies will result from the centralization of the infrastructure and increased efficiencies through hardware standardization.

Data Sources

The following is a list of the individuals considered both internal and external subject matter experts who were used to gather, validate, and discuss the information contained in this document.

Individual	Agency	Individual	Agency
Andy Hill	ATG	Scott Ayers	DSHS
Greg Harvill	ATG	Randy Moore	ECY
Ron Seymour	DFI	Debbie Stewart	ECY
Deb Gustafson	DFI	Gary Mortenson	ESD
Angie Ragan	DFW	Bob DeShave	ESD
Michael Keeling	DFW	Zodie Williamson	HCA
James Eby	DFW	Aric Norton	LIQ
Karen Barrett	DIS	Chris Cotey	LNI
Baird Miller	DIS	Mark Fortier	OFM
Cammy Webster	DIS	Ted Loran	OSPI
Tim Reynolds	DIS	Marty Knorr	WPS
Melissa Rohwedder	DIS	Bill Harwell	WPS
Jeff Sprehn	DIS	Tim Crabb	WSDOT
John Dane	DNR		
Joshua Phelps	DOC	Jody Graham	Excipio
Bill Norris	DOH	Kevin Geltz	Excipio
Jim Henley	DOL	David Hutchison	Excipio
David Curtiss	DOL	Rod Dozier	Excipio
Tom Coit	DOL		
Trudi Nichols	DOP	Barrett Anderson	Unisys
Ila Kowalski	DOP	John Hansford	Unisys
Emanuel Perera	DOR		
Lyle Tillett	DRS	Steve Finney	Microsoft
Cheryl Fowble	DSHS	Faye Harold	Microsoft

Appendix: A

Microsoft vs. Google: Email

The last decade of technology has developed some interesting debates. No debate is bigger than the competition between Microsoft and Google for cloud services. It does not take a powerful internet search engine to research this debate on the internet.

Microsoft is using Business Productivity Online Standard Suite (BPOS) to compete in the cloud with Google's cloud service Google Apps Premier Edition (GAPE). There are many online debates by consumers, corporate customers, technical SMEs, technical publications, and Microsoft itself has provided comparisons between the application suites. However, Google has remained relatively quiet in defense of public articles and the Microsoft findings go unchallenged. The research comparison charts below are related to email functionality and features.

Outlook Feature Supported	In Exchange Online	In Google Apps	Comments
eMail			
E-mail (messages with read state)	Yes	Yes	
Mail folders and Categories	Yes	No	Folders are labels in Gmail. Categories are not supported.
Attachments and rich formatting	Yes	Partial	Executable attachments (including self-extracting .zip files) are not supported in Gmail. Rich formatting layout is altered when sending to non-Gmail users.
Flags, reminders, and importance	Yes	No	Flags are stars in Gmail and can't be sent to others. Follow-up reminders and priority are not supported.
Inbox rules	Yes	Yes	
Signatures	Yes	Partial	One signature only
Delegations and sharing	Yes	Partial	Full access to mailbox only: "work on behalf"
Spellcheck Capability	Yes	No	

Outlook Feature Supported	In Exchange Online	In Google Apps	Comments
Calendaring			
Calendar Items	Yes	Yes	Multi-calendar support
Free or busy status	Yes	Partial	No Tentative or Out of Office status; only "busy" or "free."
Attendees and responses	Yes	Partial	No "Optional" attendees, no "Tentative" responses. No verbose responses to invitations in e-mail.
Event reminders	Yes	Yes	
Attachments and rich formatting	Yes	No	No attachments or rich formatting in calendar events
Sharing and delegation	Yes	Yes	

Outlook Feature Supported	In Exchange Online	In Google Apps	Comments
Contacts			
Personal Contacts	Yes	Yes	
Contact folders and categories	Yes	No	One group for all contacts
Personal groups and D/Ls	Yes	Yes	
Flags, dates, and reminders	Yes	No	Not for contacts
Rich formatting and notes field	Yes	Partial	No rich formatting. Notes field must be smaller than 16k.
Contact sharing	Yes	No	
Global Contacts (Global Address List)	Yes	Partial	Groups and Distribution Lists are not supported for lookup; the only contact fields are Name, E-mail, and Address
Notes, Tasks, Journal	Yes	Partial	Tasks are supported with a very basic user interface. Notes and Journal are not supported.

Functionality and features seem to fuel much of the debate from a user perspective. However, the main concerns of organizations considering the change to Google Gmail and online applications are security, privacy, and costs. Below are other factors to consider.

- **Market Focus and Presence** - Microsoft is the main software vendor in the private and public sector. Microsoft's experience, office productivity solution maturity, presence, and popularity in the enterprise are not in doubt. Google is marketing the public sector and has experienced some success during drastic budget cuts. Google's success in the private sector is smaller as most of its customers are small to medium businesses. Microsoft has lowered price-points to compete with the costs savings initially fueling Google's market surge.
- **Product Maturity** - Microsoft is enhancing its software to make it less complex to use and maintain, while Google is trying to match and compete with features and functionality.
- **Features and Functionality** - As depicted in the charts above and on numerous other charts outlining variances or differences in the comparison of BPOS and GAPE, Google is still in the serious development phase of production.
- **Transitional Operating Costs** - Beyond the migration to Google, many users have and will need extra attention to transition away from Microsoft products. This is a fact that will need to be considered during planning. Application support, helpdesk and training costs will increase.

These are the primary reasons Microsoft BPOS Exchange 2010 represented the outsource vendor in this assessment, over Google Gmail. There is little doubt Google will improve their existing product offering over time and provide a suitable security and privacy policy to satisfy customers.